

REMARKS

Reconsideration of the application in light of the amendments and the following remarks is respectfully requested.

Status of the Claims

Claims 1-10 are pending. Claims 1 and 2 have been amended to place the claims in better idiomatic English, without narrowing the subject matter contained therein. Claim 10 has been added and recites in independent form the subject matter of original claim 2. No new matter has been added.

Allowable Subject Matter

Applicants appreciatively acknowledge the Examiner's indication of allowable subject matter in claims 2-8. Applicants submit that added claim 10 recites allowable subject matter, as identified by the Examiner, and thus is in condition for allowance.

Rejection Under 35 U.S.C. § 112

Claims 1-8 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Specifically, the Examiner contends that the phrase “a mechanical structure of antenna head of a . . . ,” as recited in claim 1, is not clear. In particular, the Examiner stated that it was “unclear what defines the antenna head and how it relates to the claimed structure.” Applicants have amended claim 1 to be in better idiomatic English. Further, as is well known in the art, the antenna head is the portion of the antenna at its mounting location, which is also where its feed conductors are attached to it. See the specification at page 2, line 21 to page 3, line 19. Applicants submit that amended claim 1, and dependent claims 2-8, are in conformance with U.S. patent practice. Reconsideration and withdrawal of the rejection is requested.

Rejection Under 35 U.S.C. 103

Claims 1 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over International Application No. WO 00/38475 to Marqvardsen et al. (“Marqvardsen”) in view of International Application No. WO 02/50944 to Mähringer. Applicants respectfully traverse the rejection.

The claimed invention is directed to a planar antenna where there is integration of the mechanical structures of an antenna and a speaker, so that a given planar component radiates both radio waves and sound waves. Specifically, the antenna and speaker utilize the same structural elements. A radiator component 310 comprises layers 315, 313, 316 whose shape can be controlled by means of a voltage. Changes in the shape of the radiator cause fluctuations of air pressure (i.e., sound waves).

The Examiner contends that Marqvardsen discloses a planar antenna with a speaker mounted to the cavity of the antenna, but does not disclose electrical feeders or conductors shown for the antenna or speaker. The Examiner contends that it would have been obvious for a skilled artisan to provide conductors for feeding the antenna and connecting the speaker. The Examiner cites Mähringer as evidence of such obviousness. The Examiner contends that Mähringer discloses a conductor 5 connected to the speaker and the other speaker lead connected to ground.

Applicants submit that the Examiner has not appreciated that the communication device disclosed in Marqvardsen includes a loudspeaker 2 that is acoustically coupled to a resonance chamber 9 by acoustic coupling 10 (Fig. 5). A person of ordinary skill in the art would understand that **Marqvardsen's device does not use conductors to feed the speaker**. Therefore, a person in possession of Marqvardsen would not need to provide conductors for both

feeding the antenna and connecting the speaker. Thus, there is no motivation to combine Marqvardsen and Mähringer. Additionally, the combination of Marqvardsen and Mähringer would result in a loudspeaker and a planar antenna that are not integrally formed from the same mechanical structure, and thus, the cited combination does not achieve the claimed invention. The PCT application to Marqvardsen also appears to correspond to U.S. Patent No. 6,922,471, which is cited in an Information Disclosure Statement filed concurrently herewith.

Although the Examiner has relied on Mähringer (a German-language International Application), Applicants have studied its English-language corresponding patent, U.S. Patent No. 6,927,732 — which is submitted in an Information Disclosure Statement filed concurrently herewith. Applicants can find no disclosure in the '732 Patent of a speaker lead connected to ground, which the Examiner contends is disclosed in the International Application.

The '732 Patent discloses creating ringtone functions using an antenna and a piezo-ceramic layer 4. A crease 3 is formed on the antenna surface to create a membrane 2 capable of oscillation when the piezo-ceramic layer is driven by alternating voltage. "The piezo-electric layer 4 is controlled with electrical signals via the electrical connection 5 on the piezo-ceramic layer 4." (The '732 Patent, column 3, lines 50-62.) Mähringer Fig. 1 discloses a electrical connection 5 on one surface of the piezo-ceramic layer. A person of ordinary skill in the art would appreciate that a second signal connection is required to operate the piezo-ceramic layer, and that such a second signal connection is conventionally attached to the underside of the piezo-ceramic layer. Therefore, Applicants submit that Marqvardsen and Mähringer neither disclose nor suggest that the electrical connection 5 is "galvanically connected to a same conductor plane" as the antenna feed conductor, as recited in claim 1.

The above remarks are equally applicable to the Examiner's rejection of claim 9. Applicants submit that the above discussion demonstrates multiple instances where the Examiner has failed to meet the burden of establishing a *prima facie* case of obviousness over claims 1 and 9. Reconsideration and withdrawal of the rejection is requested.

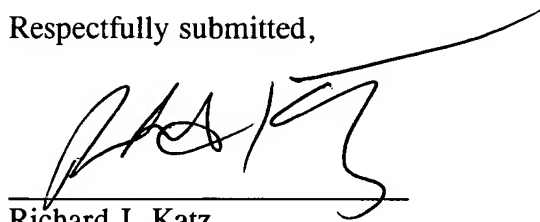
CONCLUSION

Each and every point raised in the Office Action dated September 21, 2005 has been addressed on the basis of the above amendments and remarks. In view of the foregoing it is believed that claims 1-10 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

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Respectfully submitted,



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